plary embodiments of this invention may be implemented at least in part by computer software stored on the MEM **410**, which is executable by the DP **408** of the AP **400**, or by hardware, or by a combination of tangibly stored software and hardware (and tangibly stored firmware). Similarly, at least one of the PROGs **464** in the STA **450** is assumed to include a set of program instructions that, when executed by the associated DP **458**, enable the device to operate in accordance with the exemplary embodiments of this invention, as detailed above. In these regards the exemplary embodiments of this invention may be implemented at least in part by computer software stored on the MEM **460**, which is executable by the DP **458** of the STA **450**, or by hardware, or by a combination of tangibly stored software and hardware (and tangibly stored firmware). Electronic devices implementing these aspects of the invention need not be the entire devices as depicted at FIG. **1** or FIG. **4** or may be one or more components of same such as the above described tangibly stored software, hardware, firmware and DP, or a system on a chip SOC or an application specific integrated circuit ASIC.

[0035] In general, the various embodiments of the STA **450** can include, but are not limited to personal portable digital devices having wireless communication capabilities, including but not limited to cellular telephones, navigation devices, laptop/palmtop/tablet computers, digital cameras and music devices, and Internet appliances.

[0036] Various embodiments of the computer readable MEM **410** and **460** include any data storage technology type which is suitable to the local technical environment, including but not limited to semiconductor based memory devices, magnetic memory devices and systems, optical memory devices and systems, fixed memory, removable memory, disc memory, flash memory, DRAM, SRAM, EEPROM and the like. Various embodiments of the DP **408** and **458** include but are not limited to general purpose computers, special purpose computers, microprocessors, digital signal processors (DSPs) and multi-core processors.

[0037] Electronic devices implementing these aspects of the invention need not be the entire devices as depicted at FIG. **1** or FIG. **4** or may be one or more components of same such as the above described tangibly stored software, hardware, firmware and DP, or a system on a chip SOC or an application specific integrated circuit ASIC.

[0038] While various exemplary embodiments have been described above it should be appreciated that the practice of the invention is not limited to the exemplary embodiments shown and discussed here. Various modifications and adaptations to the foregoing exemplary embodiments of this invention may become apparent to those skilled in the relevant arts in view of the foregoing description. It will be further recognized that the various blocks illustrated in FIG. **3** and discussed above may be performed as steps, but the order in which they are presented is not limiting and they may be performed in any appropriate order with or without additional intervening blocks or steps.

[0039] Further, some of the various features of the above non-limiting embodiments may be used to advantage without the corresponding use of other described features.

[0040] The foregoing description should therefore be considered as merely illustrative of the principles, teachings and exemplary embodiments of this invention, and not in limitation thereof.

We claim:

1. An apparatus comprising:
at least one processor;
memory storing a program of instructions;
wherein the memory storing the program of instructions is configured to, with the at least one processor, cause the apparatus to at least:
before the beginning of a priority period, examine a transmission medium for an ongoing transmission;
in response to detection of an ongoing transmission from a second apparatus extending past the scheduled beginning of the priority period, wait for the fulfillment of a specified criterion indicating an end of the ongoing transmission;
in response to fulfillment of the specified criterion, schedule transmission of the first data frame, followed by a first interframe space value after the ongoing transmission; and
during a non-priority period, schedule transmission of the first data frame, followed by a second interframe space value, wherein the second interframe space value is greater than the first interframe space value.

2. The apparatus of claim **1**, wherein the priority period is a contention free period for a wireless local area network and the non-priority period is a contention period for the wireless local area network, and the second interframe space value is on the order of or longer than a legacy interframe space value used by legacy wireless local area networking elements.

3. The apparatus of claim **1**, wherein the priority period has a fixed frame structure such that delay of transmission based on the presence of an ongoing transmission shortens the time available for transmission during the priority period.

4. The apparatus of claim **1**, wherein the priority period has a flexible frame structure such that delay of transmission extends the priority period.

5. The apparatus of claim **1**, wherein the priority period is dedicated either to uplink or to downlink transmission.

6. The apparatus of claim **1**, wherein the priority period has an uplink phase and a downlink phase with a transition between uplink and downlink occurring during the priority period.

7. The apparatus of claim **1**, wherein the criterion indicating the end of the ongoing transmission comprises an acknowledgement following the end of the ongoing transmission or a duration indicated in a request to send or clear to send message.

8. A method comprising:
before the beginning of a priority period, examining a transmission medium for an ongoing transmission;
in response to detection of an ongoing transmission from a second apparatus extending past the scheduled beginning of the priority period, waiting for the fulfillment of a specified criterion indicating an end of the ongoing transmission;
in response to fulfillment of the specified criterion, scheduling transmission of the first data frame, followed by a first interframe space value after the ongoing transmission; and
during a non-priority period, scheduling transmission of the first data frame, followed by a second interframe space value, wherein the second interframe space value is greater than the first interframe space value.

9. The method of claim **8**, wherein the priority period is a contention free period for a wireless local area network and